NATIVE CONSERVANCY

# Denali Commission Award 1599

Community Kelp Seed Nursery in Seward, Alaska
Project Narrative Report
Reporting Period: October 1, 2020 - December 31, 2020

***Project Status:***

The Native Conservancy Community Kelp Seed Nursery (CKSN) project has been successfully built, operated, and completed at the Alutiiq Pride Shellfish Hatchery in Seward, Alaska.

***Accomplishments:***

Accomplishments include the full build-out and operation of the stand-alone seed nursery from October - December 2020. Key milestones were met with the successful cultivation and delivery 80 spools and three species of kelp--Saccharina Latissima (sugar kelp), Alaria Marginata (ribbon kelp), and Nereocystis Luetkeana (bull kelp)--to seven research test sites in the Prince William Sound. Various cultivation processes were attempted, including varying light and temperature, streamlining equipment sanitation, and testing tank change methods to minimize shock and contamination of seed spools. After successful delivery of the seed spools, the nursery equipment was disassembled, cleaned, and packaged within the container. The lessons were then compiled and the Best Practices manual has been written, formatted and will be submitted to key partners.

***Project Schedule:***

The Community Kelp Seed Nursery project took longer than expected both in constructing and operations. There were initial concerns that the kelp spools were developing more slowly than expected, however that proved untrue and was likely attributed to patchy growth causing incorrect observations. By weeks 6-7, many of the spools were ready for outplanting (based on best recommendations to outplant when blades are 1-2mm in length). Unfortunately, extreme weather conditions delayed the deployment of the ocean research arrays so the spools had to remain in the nursery longer than advisable. This extended the project by a couple weeks, but allowed us to document best outplanting windows and rates of decay in extended nursery conditions. Weather within the Prince William Sound will always be a factor for kelp farmers, so developing an outplanting window with informed risks is invaluable to future operations.

***Project Budget:***

The project exceeded the proposed budget by $576.11. The Native Conservancy covered these additional costs. The final expenditures diverged from the approved budget category allocations. Personnel and contractor costs were higher than expected and equipment costs were lower. An explanation for each divergence was submitted to the Denali Commission finance team managing this award.

***Actions to Address Project Problems:***

The delay in optimal outplanting led to contamination challenges as the kelp outgrew their tank environments. Various intervention methods were tested including salt water dips, filtered fresh water dips, continuation of Geranium Dioxide treatments, reducing light exposure, and reducing water temperature. While none of these methods were completely effective, the lessons learned in combating the decline of the older kelp spools greatly expanded our understanding of optimal outplanting and the variation of needs between species.